

MA Sustainable Design Roundtable Working Group Meeting Notes

Group: **Sustainable Design Metrics**

Date: February 17, 2005

Location: Utile Inc., 50 Summer St., Boston, Ma

Attendees: John Boehs (Arup, chair), Peter Gorer (Hanscomb, Faithful & Gould), Tim Love (Utile Inc.), Jim Doolin (Massport), Magda Lelak (Andelman & Lelek), Joe Carroll (Keyspan), Marie Zack Nolan (EOEA staff)

Handouts: Agenda, Notes on metrics of some state construction program and agencies, Arup SPeAR Diagram

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1. Member Introductions
 2. Review of working group meeting minutes from 1-13-05 roundtable
 3. Discussion on Issues pertaining to Sustainable Design Metrics:
 - Types of metrics:
 - Post-occupancy metrics – metrics evaluating success through peer review, using financial measures (energy costs v. soft costs) to justify costs e.g.) operational savings
 - Predictive evaluation of metrics showing increased value of project e.g.) condo developer asks can I charge more in my pro forma because it's a green building? Rent predictions, REITs use this metric.
 - Spin on what is considered important to measure: mechanical engineer (energy perspective) v. architect (pro forma, soft values perspective)
 - Need to answer question: What makes green more marketable? Real estate professionals measure any increase in occupancy or dollars. What is state's interest in sustainable design metrics? What state does affects private markets. Metrics that state use would be a model for a national standard.
 - Problem: Few LEED certified buildings exist to sample metrics
 - Higher education networks could share utility data for third party validation, auditing. e.g.) Stanford, benchmarking
 - Advantages of using LEED as a metric:
 - Already established process
 - Costs to register, but USGBC reviews & audits project, provides third party approval
 - LEED is inclusive and captures community development (but is it inclusive enough?)
 - LEED is being improved continuously through revisions
 - Utile's work for Harvard involves overlaying LEED's prerequisite checklist with additional prerequisites to show bias of policies; found LEED is not biased enough toward urban planning issues.
 - Need to investigate how DCAM and other state agencies measure green design, as well as USGBC, Green Globes, consultants, CHIPS, other benchmarking systems.
 - Need to decide what to measure to support policy, need to define metric as a value – adding proposition

- Who are the audience/stakeholders?
Public – taxpayers
Decision makers involved in state-funded and/or owned buildings
- What key performance indicators do decision makers need? Example:
Massport Board has certain criteria:
 1. stewardship – doing the right thing for communities Massport impacts
 2. asset management (self-financed authority)
 In addition, factors important to the state – theme behind economic development, marketing a quality of life (why a given company wants to be in MA / reasons behind value-added economy):
 3. efficiency
 4. competition
 5. sustainability (design excellence)
- What are we trying to communicate? Need to translate whatever leadership wants to communicate. Some policies are science-based and can be quantified and some cannot be measured.
- MA Transportation Building was one of first sustainable buildings in MA, history should exist on its energy savings. Goody Clancy provided handout to Mayor's Task Force.
- Presentation was made to working group on the metrics being collected by some state agencies:
 - EOEa State Sustainability Program MA greenhouse gas inventory for state agencies. FY02 baseline data for GHG emissions: using energy consumption data from purchasing records, state contracts, costs from state accounting system for electricity, natural gas, coal, heating oils, fuel and applying conversion factors to get CO2 emissions.
 - DCAM – conservation program for existing building using energy savings performance contracts and energy audits. Metrics include total cost, annual savings, savings to date, CO2 saved, SO2 saved, NOx saved.
 - DCAM - program for new construction and major renovations include LCA requirements, sustainable design guidelines, energy modeling, commissioning
 - Cape Cod Community College New Technology Center is the first DCAM project to be LEED registered – under construction
 - Quinsigamond CC Library & Resource Center – green but not LEED - in construction
- Need to know the metrics being measured for schools in MA. DOE/MTC has a committee comparing CHIPS to LEED for MA schools
- ARUP Spear diagram is another visual tool like the LEED periodic table developed by Ufile.
- Focus on case studies of following groups and what they have been measuring:
 - DCAM, City of Boston (Mayors Task Force), GSA, Transportation Building, City of Cambridge
 What are their sustainability goals and how have they measured their progress through benchmarking and data collection?
- Measurable science-based benefits/costs v. policy (soft, harder to quantify):
In LEED format, can show which benefits are science-based and which are soft. LEED credits are based on measurable benchmarks. Two kinds of metrics:
 - 1) whether project meets criteria e.g.) % of open space, effect on society is soft
 - 2) post-occupancy data for energy & water consumption, waste generation – only covers 1/3 of LEED points. Difference is that open space criteria can make an assertion but cannot be measured afterwards.

- Scope of Problem:
 - Metrics v. measuring quality of life
 - Soft v. quantifiable metrics
 - Deciding on what information is needed from quantity of data

Questions for the Working Group consider:

1. What do we measure?
2. How easy is it to measure?
3. What are the baselines?
4. How do you validate the measurement?
5. How do you make use of the data?

- Need to make laundry list of what we want to measure

Tim Love is teaching a professional education course at Northeastern University on April 13-14 at Batterymarch (downtown) location on "Sustainable Design and For Profit Development"

Tasks for Next Meeting:

Provide writeup on State Transportation Building - MZN

Send working group members information on DCAM programs - MZN

Next Meeting:

To Be Determined by John Boehs based on availability of working group members.